

SEQUENCE LISTING

<110> Chernajovsky, Yuti
Neve, Richard
Feldmann, Marc

<120> Small Molecular Weight TNF Receptor Multimeric Molecule

<130> KIR95-01A

<150> 08/437,533

<151> 1995-05-09

<160> 4

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1506

<212> DNA

<213> Unknown

<220>

<221> CDS

<222> (1) ... (1506)

<400> 1

atg gcg ccc gtc gcc gtc tgg gcc gcg ctg gcc gtc gga ctg gag ctc	48
Met Ala Pro Val Ala Val Trp Ala Ala Leu Ala Val Gly Leu Glu Leu	
1 5 10 15	
tgg gct gcg gcg cac gcc ttg ccc gcc cag gtg gca ttt aca ccc tac	96
Trp Ala Ala Ala His Ala Leu Pro Ala Gln Val Ala Phe Thr Pro Tyr	
20 25 30	
gcc ccg gag ccc ggg agc aca tgc cgg ctc aga gaa tac tat gac cag	144
Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln	
35 40 45	
aca gct cag atg tgc tgc agc aaa tgc tcg ccg ggc caa cat gca aaa	192
Thr Ala Gln Met Cys Cys Ser Lys Cys Ser Pro Gly Gln His Ala Lys	
50 55 60	
gtc ttc tgt acc aag acc tcg gac acc gtg tgt gac tcc tgt gag gac	240
Val Phe Cys Thr Lys Thr Ser Asp Thr Val Cys Asp Ser Cys Glu Asp	
65 70 75 80	
agc aca tac acc cag ctc tgg aac tgg gtt ccc gag tgc ttg agc tgt	288
Ser Thr Tyr Thr Gln Leu Trp Asn Trp Val Pro Glu Cys Leu Ser Cys	
85 90 95	

ggc tcc cgc tgt agc tct gac cag gtg gaa act caa gcc tgc act cgg	336
Gly Ser Arg Cys Ser Ser Asp Gln Val Glu Thr Gln Ala Cys Thr Arg	
100 105 110	
gaa cag aac cgc atc tgc acc tgc agg ccc ggc tgg tac tgc gcg ctg	384
Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu	
115 120 125	
agc aag cag gag ggg tgc cgg ctg tgc gcg ccg ctg cgc aag tgc cgc	432
Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg	
130 135 140	
ccg ggc ttc ggc gtg gcc aga cca gga act gaa aca tca gac gtg gtg	480
Pro Gly Phe Gly Val Ala Arg Pro Gly Thr Glu Thr Ser Asp Val Val	
145 150 155 160	
tgc aag ccc tgt gcc ccg ggg acg ttc tcc aac acg act tca tcc acg	528
Cys Lys Pro Cys Ala Pro Gly Thr Phe Ser Asn Thr Thr Ser Ser Thr	
165 170 175	
gat att tgc agg ccc cac cag atc tgt aac gtg gtg gcc atc cct ggg	576
Asp Ile Cys Arg Pro His Gln Ile Cys Asn Val Val Ala Ile Pro Gly	
180 185 190	
aat gca agc atg gat gca gtc tgc acg tcc acg tcc ccc acc cgg agt	624
Asn Ala Ser Met Asp Ala Val Cys Thr Ser Thr Ser Pro Thr Arg Ser	
195 200 205	
atg gcc cca ggg gca gta cac tta ccc cag cca gtg tcc aca cga tcc	672
Met Ala Pro Gly Ala Val His Leu Pro Gln Pro Val Ser Thr Arg Ser	
210 215 220	
caa cac acg cag cca act cca gaa ccc agc act gct cca agc acc tcc	720
Gln His Thr Gln Pro Thr Pro Glu Pro Ser Thr Ala Pro Ser Thr Ser	
225 230 235 240	
ttc ctg ctc cca atg ggc ccc agc ccc cca gct aga ggt ggg ggc ggt	768
Phe Leu Leu Pro Met Gly Pro Ser Pro Pro Ala Arg Gly Gly Gly Gly	
245 250 255	
tcg ggt ggc ggc ggc tcg ggc ggg ggt ggc tcg gat ccc gcc cag gtg	816
Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Asp Pro Ala Gln Val	
260 265 270	
gca ttt aca ccc tac gcc ccg gag ccc ggg agc aca tgc cgg ctc aga	864
Ala Phe Thr Pro Tyr Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg	
275 280 285	
gaa tac tat gac cag aca gct cag atg tgc tgc agc aaa tgc tcg ccg	912
Glu Tyr Tyr Asp Gln Thr Ala Gln Met Cys Cys Ser Lys Cys Ser Pro	
290 295 300	

ggc caa cat gca aaa gtc ttc tgt acc aag acc tcg gac acc gtg tgt	960
Gly Gln His Ala Lys Val Phe Cys Thr Lys Thr Ser Asp Thr Val Cys	
305 310 315 320	
gac tcc tgt gag gac agc aca tac acc cag ctc tgg aac tgg gtt ccc	1008
Asp Ser Cys Glu Asp Ser Thr Tyr Thr Gln Leu Trp Asn Trp Val Pro	
325 330 335	
gag tgc ttg agc tgt ggc tcc cgc tgt agc tct gac cag gtg gaa act	1056
Glu Cys Leu Ser Cys Gly Ser Arg Cys Ser Ser Asp Gln Val Glu Thr	
340 345 350	
caa gcc tgc act cgg gaa cag aac cgc atc tgc acc tgc agg ccc ggc	1104
Gln Ala Cys Thr Arg Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly	
355 360 365	
tgg tac tgc gcg ctg agc aag cag gag ggg tgc cgg ctg tgc gcg ccg	1152
Trp Tyr Cys Ala Leu Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro	
370 375 380	
ctg cgc aag tgc cgc ccg ggc ttc ggc gtg gcc aga cca gga act gaa	1200
Leu Arg Lys Cys Arg Pro Gly Phe Gly Val Ala Arg Pro Gly Thr Glu	
385 390 395 400	
aca tca gac gtg gtg tgc aag ccc tgt gcc ccg ggg acg ttc tcc aac	1248
Thr Ser Asp Val Val Cys Lys Pro Cys Ala Pro Gly Thr Phe Ser Asn	
405 410 415	
acg act tca tcc acg gat att tgc agg ccc cac cag atc tgt aac gtg	1296
Thr Thr Ser Ser Thr Asp Ile Cys Arg Pro His Gln Ile Cys Asn Val	
420 425 430	
gtg gcc atc cct ggg aat gca agc atg gat gca gtc tgc acg tcc acg	1344
Val Ala Ile Pro Gly Asn Ala Ser Met Asp Ala Val Cys Thr Ser Thr	
435 440 445	
tcc ccc acc cgg agt atg gcc cca ggg gca gta cac tta ccc cag cca	1392
Ser Pro Thr Arg Ser Met Ala Pro Gly Ala Val His Leu Pro Gln Pro	
450 455 460	
gtg tcc aca cga tcc caa cac acg cag cca act cca gaa ccc agc act	1440
Val Ser Thr Arg Ser Gln His Thr Gln Pro Thr Pro Glu Pro Ser Thr	
465 470 475 480	
gct cca agc acc tcc ttc ctg ctc cca atg ggc ccc agc ccc cca gct	1488
Ala Pro Ser Thr Ser Phe Leu Leu Pro Met Gly Pro Ser Pro Pro Ala	
485 490 495	
gaa ggg agc act ggc tag	1506
Glu Gly Ser Thr Gly *	
500	

<210> 2
 <211> 501
 <212> PRT
 <213> Unknown

<400> 2

Met	Ala	Pro	Val	Ala	Val	Trp	Ala	Ala	Leu	Ala	Val	Gly	Leu	Glu	Leu	1	5	10	15
Trp	Ala	Ala	Ala	His	Ala	Leu	Pro	Ala	Gln	Val	Ala	Phe	Thr	Pro	Tyr	20	25	30	
Ala	Pro	Glu	Pro	Gly	Ser	Thr	Cys	Arg	Leu	Arg	Glu	Tyr	Tyr	Asp	Gln	35	40	45	
Thr	Ala	Gln	Met	Cys	Cys	Ser	Lys	Cys	Ser	Pro	Gly	Gln	His	Ala	Lys	50	55	60	
Val	Phe	Cys	Thr	Lys	Thr	Ser	Asp	Thr	Val	Cys	Asp	Ser	Cys	Glu	Asp	65	70	75	80
Ser	Thr	Tyr	Thr	Gln	Leu	Trp	Asn	Trp	Val	Pro	Glu	Cys	Leu	Ser	Cys	85	90	95	
Gly	Ser	Arg	Cys	Ser	Ser	Asp	Gln	Val	Glu	Thr	Gln	Ala	Cys	Thr	Arg	100	105	110	
Glu	Gln	Asn	Arg	Ile	Cys	Thr	Cys	Arg	Pro	Gly	Trp	Tyr	Cys	Ala	Leu	115	120	125	
Ser	Lys	Gln	Glu	Gly	Cys	Arg	Leu	Cys	Ala	Pro	Leu	Arg	Lys	Cys	Arg	130	135	140	
Pro	Gly	Phe	Gly	Val	Ala	Arg	Pro	Gly	Thr	Glu	Thr	Ser	Asp	Val	Val	145	150	155	160
Cys	Lys	Pro	Cys	Ala	Pro	Gly	Thr	Phe	Ser	Asn	Thr	Thr	Ser	Ser	Thr	165	170	175	
Asp	Ile	Cys	Arg	Pro	His	Gln	Ile	Cys	Asn	Val	Val	Ala	Ile	Pro	Gly	180	185	190	
Asn	Ala	Ser	Met	Asp	Ala	Val	Cys	Thr	Ser	Thr	Ser	Pro	Thr	Arg	Ser	195	200	205	
Met	Ala	Pro	Gly	Ala	Val	His	Leu	Pro	Gln	Pro	Val	Ser	Thr	Arg	Ser	210	215	220	
Gln	His	Thr	Gln	Pro	Thr	Pro	Glu	Pro	Ser	Thr	Ala	Pro	Ser	Thr	Ser	225	230	235	240
Phe	Leu	Leu	Pro	Met	Gly	Pro	Ser	Pro	Pro	Ala	Arg	Gly	Gly	Gly	Gly	245	250	255	
Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Pro	Ala	Gln	Val	260	265	270	
Ala	Phe	Thr	Pro	Tyr	Ala	Pro	Glu	Pro	Gly	Ser	Thr	Cys	Arg	Leu	Arg	275	280	285	
Glu	Tyr	Tyr	Asp	Gln	Thr	Ala	Gln	Met	Cys	Cys	Ser	Lys	Cys	Ser	Pro	290	295	300	
Gly	Gln	His	Ala	Lys	Val	Phe	Cys	Thr	Lys	Thr	Ser	Asp	Thr	Val	Cys	305	310	315	320
Asp	Ser	Cys	Glu	Asp	Ser	Thr	Tyr	Thr	Gln	Leu	Trp	Asn	Trp	Val	Pro	325	330	335	
Glu	Cys	Leu	Ser	Cys	Gly	Ser	Arg	Cys	Ser	Ser	Asp	Gln	Val	Glu	Thr	340	345	350	

Gln Ala Cys Thr Arg Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly
 355 360 365
 Trp Tyr Cys Ala Leu Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro
 370 375 380
 Leu Arg Lys Cys Arg Pro Gly Phe Gly Val Ala Arg Pro Gly Thr Glu
 385 390 395 400
 Thr Ser Asp Val Val Cys Lys Pro Cys Ala Pro Gly Thr Phe Ser Asn
 405 410 415
 Thr Thr Ser Ser Thr Asp Ile Cys Arg Pro His Gln Ile Cys Asn Val
 420 425 430
 Val Ala Ile Pro Gly Asn Ala Ser Met Asp Ala Val Cys Thr Ser Thr
 435 440 445
 Ser Pro Thr Arg Ser Met Ala Pro Gly Ala Val His Leu Pro Gln Pro
 450 455 460
 Val Ser Thr Arg Ser Gln His Thr Gln Pro Thr Pro Glu Pro Ser Thr
 465 470 475 480
 Ala Pro Ser Thr Ser Phe Leu Leu Pro Met Gly Pro Ser Pro Pro Ala
 485 490 495
 Glu Gly Ser Thr Gly
 500

<210> 3

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> deoxyoligonucleotide primer

<400> 3

tcggatcccg cccaggtggc atttacaccc

30

<210> 4

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> deoxyoligonucleotide primer

<400> 4

cggaattcta gaaggtaccc

20

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

COPY FOR CONTINUING
APPLICATION

Declaration for Patent Application

As a named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name;

I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 3 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled

SMALL MOLECULAR WEIGHT TNF RECEPTOR MULTIMERIC MOLECULE

the specification of which (check one)

☐ is attached hereto.

☒ was filed on May 9, 1995 as
Application Serial No. 08/437,533
and was amended on _____ (if
applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is known by me to be material to patentability as defined in 37 C.F.R. §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

			Priority Claimed	
(Number)	(Country)	(Day/Month/Year filed)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____	_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____	_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No
_____	_____	_____	<input type="checkbox"/> Yes	<input type="checkbox"/> No

COPY FOR CONTINUING

I hereby claim the benefit under Title 35, United States Code, APPLICATION §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information known by me to be material to patentability as defined in 37 C.F.R. §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing date)	(Status, patented, pending, abandoned)
--------------------------	---------------	---

(Application Serial No.)	(Filing date)	(Status, patented, pending, abandoned)
--------------------------	---------------	---

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

I also hereby grant additional Powers of Attorney to the following attorney(s) and/or agent(s) to file and prosecute an international application under the Patent Cooperation Treaty based upon the above-identified application, including a power to meet all designated office requirements for designated states.

David E. Brook	Registration No. 22,592
James M. Smith	Registration No. 28,043
Leo R. Reynolds	Registration No. 20,884
Richard A. Wise	Registration No. 18,041
Patricia Granahan	Registration No. 32,227
Mary Lou Wakimura	Registration No. 31,804
Thomas O. Hoover	Registration No. 32,470
Alice O. Carroll	Registration No. 33,542
N. Scott Pierce	Registration No. 34,900

all of Hamilton, Brook, Smith and Reynolds, P.C., Two Militia Drive, Lexington, Massachusetts 02173;

and

Send correspondence to: David E. Brook
HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
Two Militia Drive, Lexington, Massachusetts 02173-4799

Direct telephone calls to: David E. Brook

(617) 861-6240

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

COPY FOR CONTINUING APPLICATION

Full name of sole
or first inventor Yuti Chernajovsky
Inventor's
Signature _____ Date _____
Residence 14A Rowsley Avenue
London, NW4 1AJ
Great Britain
Citizenship Argentina
Post Office Address Same as above

Full name of second joint
inventor, if any Richard Neve
Second Inventor's
Signature Richard Neve Date 21 JUNE 1995
Residence 29 Dover Road
Sandwich, Kent CT13 OBS
Great Britain
Citizenship Great Britain
Post Office Address Same as above

Full name of third joint
inventor, if any Marc Feldmann
Third Inventor's
Signature _____ Date _____
Residence 2 Church Road
Highgate, London N6 4QT
Great Britain
Citizenship Australia
Post Office Address Same as above

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Declaration for Patent ApplicationCOPY FOR CONTINUING
APPLICATION

As a named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name;

I believe I am the original, first and sole inventor (if only one name is listed) or an original, first and joint inventor (if plural names are listed in the signatory page(s) commencing at page 3 hereof) of the subject matter which is claimed and for which a patent is sought on the invention entitled

SMALL MOLECULAR WEIGHT TNF RECEPTOR MULTIMERIC MOLECULE

the specification of which (check one)

☐ is attached hereto.

☒ was filed on May 9, 1995 as
Application Serial No. 08/437,533
and was amended on _____ (if
applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is known by me to be material to patentability as defined in 37 C.F.R. §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Prior Foreign Application(s)

Priority
Claimed

(Number) (Country) (Day/Month/Year filed)

☐ ☐
Yes No

(Number) (Country) (Day/Month/Year filed)

☐ ☐
Yes No

(Number) (Country) (Day/Month/Year filed)

☐ ☐
Yes No

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information known by me to be material to patentability as defined in 37 C.F.R. §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.)	(Filing date)	(Status, patented, pending, abandoned)
--------------------------	---------------	---

(Application Serial No.)	(Filing date)	(Status, patented, pending, abandoned)
--------------------------	---------------	---

As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

I also hereby grant additional Powers of Attorney to the following attorney(s) and/or agent(s) to file and prosecute an international application under the Patent Cooperation Treaty based upon the above-identified application, including a power to meet all designated office requirements for designated states.

David E. Brook	Registration No. 22,592
James M. Smith	Registration No. 28,043
Leo R. Reynolds	Registration No. 20,884
Richard A. Wise	Registration No. 18,041
Patricia Granahan	Registration No. 32,227
Mary Lou Wakimura	Registration No. 31,804
Thomas O. Hoover	Registration No. 32,470
Alice O. Carroll	Registration No. 33,542
N. Scott Pierce	Registration No. 34,900

all of Hamilton, Brook, Smith and Reynolds, P.C., Two Militia Drive, Lexington, Massachusetts 02173;

and

Send correspondence to: David E. Brook
HAMILTON, BROOK, SMITH & REYNOLDS, P.C.
Two Militia Drive, Lexington, Massachusetts 02173-4799

Direct telephone calls to: David E. Brook

(617) 861-6240

COPY FOR CONTINUING APPLICATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole
or first inventor Yuti Chernajovsky
Inventor's
Signature *Y. Chernajovsky* Date 22/6/95
Residence 14A Rowsley Avenue
London, NW4 1AJ
Great Britain
Citizenship Argentina
Post Office Address Same as above

Full name of second joint
inventor, if any Richard Neve
Second Inventor's
Signature _____ Date _____
Residence 29 Dover Road
Sandwich, Kent CT13 OBS
Great Britain
Citizenship Great Britain
Post Office Address Same as above

Full name of third joint
inventor, if any Marc Feldmann
Third Inventor's
Signature *M. Feldmann* Date 22/6/95
Residence 2 Church Road
Highgate, London N6 4QT
Great Britain
Citizenship Australia
Post Office Address Same as above